

## CLAIMS

1 1. A system for downloading security context elements that  
2 govern execution of agents, comprising:

3 a list of identities of users authorized to execute  
4 said agents;

5 downloadable cross certificates for verifying  
6 electronic signatures;

7 signed agents in applications including signatory name  
8 and corresponding electronic signature;

9 agent execution code responsive to said cross  
10 certificates and said electronic signature for  
11 activating said signed agents.

1 2. A system for downloading security context elements that  
2 govern execution of downloadable and distributable agents,  
3 comprising:

4 a restricted agent list store for storing names of user  
5 identities of users authorized to execute restricted

6 agents;

7 an unrestricted agent list store for storing names of  
8 user identities of users authorized to execute  
9 unrestricted agents;

10 downloadable cross certificates for use in verifying  
11 electronic signatures of names in said list stores;

12 replicatable agents in applications containing  
13 signatures specifying name of signatory and  
14 corresponding electronic signature for comparison with  
15 said downloadable cross certificates;

16 agent execution code for activating agents dependent  
17 upon successful comparison of signatures to cross  
18 certificates.

1 3. A server system for preparing security context elements  
2 for distribution to clients, comprising:

3 application code;

4 agent code referenced by said application code and

including signatures specifying name and corresponding  
electronic signature of signatories authorized to use  
said agent code;

a group list store for storing names of authorized  
signatories; and

a downloadable cross certificate store for storing  
certificates for each user or organization listed in  
said group list store and selected for downloading.

4. A client system for using security context elements  
distributed from a server with respect to downloadable  
application code, comprising:

a client side rendition of a server application using a  
signed agent;

said signed agent including signatures specifying name  
and corresponding electronic signature of signatories  
authorized to use said agent code;

a group list store for storing names of signatories;

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10         a cross certificate store for storing certificates for
11         signatories in said group list store;

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12 agent execution code for activating said signed agent  
13 dependent upon successful comparison of signatures to  
14 cross certificates.

1      5.    The client system of claim 4, further comprising:

2        said agent execution code being responsive to scheduled  
3        or on-demand access to said signed agent for first  
4        accessing said server to update said group list store  
5        and said cross certificate store.

1        6.     The client system of claim 5, further comprising:

2        said group list store storing the union of names of  
3        signatories authorized to execute agents referenced by  
4        applications downloadable from a plurality of servers.

1        7.     The client system of claim 6, further comprising:

2 said group list store comprising a restricted group  
3 store and an unrestricted group store.

1 8. The client system of claim 7, further comprising:

2 said agent execution code being operable responsive to  
3 authentication of said signature in said signed agent  
4 for determining the execution level allowed and being  
5 operable responsive to failure of authentication of  
6 said signature for preventing execution of said agent  
7 code.

1 9. A method for governing execution of downloadable and  
2 distributable signed agents characterized by security  
3 context elements, comprising the steps of:

4 determining that said signed agent is scheduled or  
5 selected for execution;

6 validating a signature in said signed agent against a  
7 store of downloadable cross certificates; and

8 executing said signed agent only responsive to





3 replicating from a first server an application  
4 referencing said signed agent; and

5 responsive to determining that said signed agent is  
6 scheduled or selected for execution, accessing said  
7 first server to update said store of downloadable cross  
8 certificates and thereafter validating said signature.

1 14. The program storage device of claim 13, said method  
2 steps further comprising:

3 replicating from a second server a second application  
4 referencing a second signed agent;

5 maintaining a unionized group list store of names of  
6 signatories authorized to execute signed lists; and

7 responsive to determining that either said signed agent  
8 or said second signed agent is scheduled or selected  
9 for execution, first accessing the said first server or  
10 said second server from which said scheduled or  
11 selected agent was downloaded to update said unionized  
12 group list store.